



## Chemicals in the Environment

### Public Access Information



# TRI

# Toxics Release Inventory

## The History of TRI

Susan Hazen, Director  
Office of Pollution Prevention and Toxics (OPPT)  
Environmental Assistance Division

In 1986, the Superfund legislation was amended to add Emergency Planning and Community Right-to-Know (EPCRA) provisions. Following closely on the fatal chemical release accident in Bhopal, India and similar though less drastic incidents in the U.S., these new provisions were intended to assure citizens that the presence, management, and routine releases of toxic chemicals in the U.S. were well understood. It was evident that the Bhopal incident could happen in the U.S. In fact, there were facilities in the U.S. where the same chemicals were manufactured, used, and stored although information about them was generally not disclosed. Emergency response teams, state and local governments, and perhaps, most importantly, the citizens who lived and shared common neighborhoods with these facilities were unaware of chemicals used and stored there.

The history of TRI has been a turbulent one. It was hard fought through Congress and the implementing rules were scrutinized heavily as they moved their way through the regulatory process. At the core of the debate was the provision that would create a facility-specific, chemical-based inventory.

The inventory, termed the Toxics Release Inventory (TRI), would create a national database identifying facilities, chemicals manufactured and used at those facilities, and the annual accidental and routine releases of these toxic substances. This information,

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though commonly known by individual plant owners and operators, was not made readily available to government officials nor to the general public. Also, this information usually did not become available until after serious accidents occurred or until major impacts on human health and the environment were evident. This after-the-fact disclosure of information did little to help plan for or prevent serious health and environmental incidents.

From 1987 to 1990, TRI data focused on release and transfer data for approximately 300 chemicals and 28,000 facilities. With the passage of the Pollution Prevention Act of 1990 (PPA), information on the amount of toxic materials leaving a facility in waste was added. As with the original implementation rules, the rules implementing the PPA were subjected to rigorous review and EPA was unable to finalize working definitions that would assure consistency in the data. This remains a weakness of the TRI and a challenge for EPA, the regulated community, and all users of the data.

It is fair to say, that turbulent or not, the history of TRI is one which has dramatically changed the last decade of environmental policies. TRI has enabled the public to participate on an equal footing in environmental debates. It has allowed the public to question the decisions of lawmakers and industry alike. It has alerted U.S. industry to the impact they have on their local environments and has pointed out the significant losses of raw material encountered each year as a result of releases and transfers.

TRI has forever changed the relationship between EPA, industry and the public — a change which created the need for transparency, openness and honesty. As changes go, this is one of the best!

Chemicals in the Environment: Public Information Access is published by EPA's Office of Pollution Prevention & Toxics (OPPT) to increase public awareness of and access to information on toxic chemicals and pollution prevention available through OPPT. This resource is also available on the Internet at: <http://www.epa.gov/cie>.

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# Expanding the Public's Right to Know

Maria Doa, Chief

OPPT Environmental Assistance Division (EAD) - TRI Branch

Few would disagree that the 1987 Emergency Planning and Community Right-to-Know Act (EPCRA) provisions proved to be among the most successful stimuli for reducing the amount of toxic materials that enter the environment. The Toxics Release Inventory (TRI) Program under EPCRA focused public and industrial attention on billions of pounds of toxic materials released directly into our air, land, water, and underground injection wells, as well as managed through waste recycling, combustion for energy recovery, and treatment for destruction.

TRI has forced us all to take a hard look at our approach to toxic chemicals. Between 1988 (the accepted baseline year for TRI) and 1994, industrial releases covered by TRI decreased by 44%, from 3.54 billion pounds to 1.56 billion pounds. This reduction reflects the hard work of manufacturing facilities — facilities that have refined processes, looked for source reduction opportunities, assured outstanding housekeeping practices, and worked to minimize the footprint they leave on the surrounding environment. TRI has provided the clues for all to use when seeking areas for environmental improvement.

One valid criticism of the program has been its limited breadth and depth of the chemical, facility, and data coverage. When Congress passed EPCRA, EPA named over 300 chemicals and chemical categories on the "TRI Chemical List." This list was a combination of two existing lists, the New Jersey Environmental Hazardous Substance List and the Maryland Chemical Inventory Report List. The original industries subject to TRI were all manufacturers, and required data was confined to releases and certain transfers off-site for waste management.

Because TRI spurred significant reduction in releases, the next logical step was to expand coverage to other industrial sectors and chemicals imposing similar impacts on our environment. To that end, the Agency has aggressively pursued an expansion strategy to enlarge the boundaries of TRI in all directions.

## *Chemical Expansion*

EPA has expanded the chemical list in two parts, following the statutory criteria for listing found in EPCRA (acute or chronic human health effects, or environmental effects). In 1993, EPA added ozone-deplet-

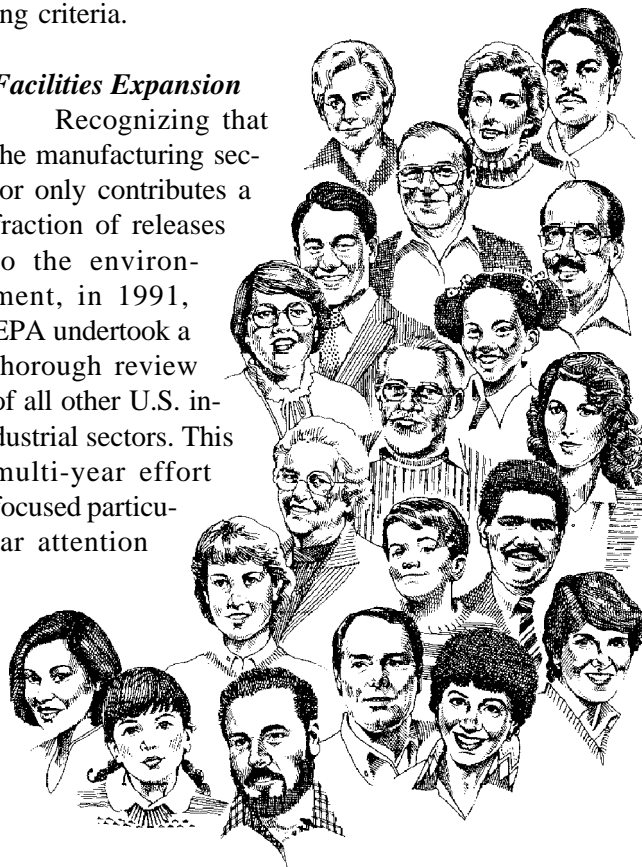
ing hydrochlorofluorocarbons (HCFCs) and 22 other chemicals that cause chronic health effects. In 1994, EPA added 286 new chemicals that can cause a variety of effects, some connected to cancer or other chronic human health effects; others to acute human health effects; and others to adverse environmental effects. These actions almost doubled the size of the TRI chemical list. EPA is currently considering whether to add certain persistent bioaccumulators to TRI and to lower the reporting thresholds for all persistent bioaccumulators on TRI. EPA expects to propose a rule on this topic in 1998.

## *Chemical Petitions*

EPCRA contains provision for the public to petition the Agency to add chemicals to or delete chemicals from the TRI list. EPA has added and deleted chemicals through this process. EPA added stratospheric ozone-depleting chlorofluorocarbons (CFCs) in response to a petition from four governors. EPA has deleted various chemicals, 16 in all, that do not meet the statutory listing criteria.

## *Facilities Expansion*

Recognizing that the manufacturing sector only contributes a fraction of releases to the environment, in 1991, EPA undertook a thorough review of all other U.S. industrial sectors. This multi-year effort focused particular attention



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on sectors linked to manufacturing — those providing energy or raw materials to, or removing materials from the manufacturing sector. EPA assessed: (1) the industries that manufacture, process, or use TRI chemicals and (2) whether including these facilities in TRI could reasonably be anticipated to increase public information.

The first facility expansion came as a result of a Presidential Executive Order, which required reporting for Federal Facilities starting in 1994. In May of 1997, as a result of its assessment, EPA added seven industry sectors to TRI: metal mining, coal mining, electric utilities that combust coal and/or oil, solvent recyclers, hazardous waste treatment and disposal facilities, chemical distributors and petroleum bulk terminals. The first reports from these facilities are due July 1, 1999. (See *Industry Expansion*, page 8). EPA will pursue an additional facility expansion activity addressing the oil and gas industry early in 1998.

#### **Data Expansion**

In 1990, Congress passed the Pollution Prevention Act. Among its requirements is a mandate to expand TRI to include information on toxic chemicals in waste and source reduction methods. Beginning in 1991, covered

facilities are required to report on toxic chemicals in waste, that is, how much is combusted for energy recovery, recycled, treated, and released.

A newer data expansion effort, often referred to as "TRI Phase III," considers using materials accounting data in a right-to-know context. Many community, environmental, and labor organizations believe that TRI would be greatly enhanced by the collection of facility-specific use information. Data elements could include the amount produced on-site, the number of employees potentially exposed, and the amount of the toxic chemical leaving the facility as or in a product. EPA issued a notice requesting public comment on the addition of materials accounting information to TRI, and is currently evaluating those comments.

The TRI Program has indeed proven to be an effective tool for bringing both industrial and public attention to the release of toxic chemicals. The concern generated by this program has resulted in efforts to minimize the use of these toxics and/or their release into the environment. EPA believes that by expanding the scope of TRI information, in terms of the chemicals and facilities covered as well as the kinds of data required, the Agency can further improve TRI's value for us all.

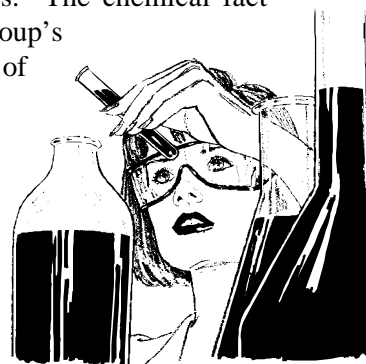
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## Chemical Fact Sheets

Dick Wormel, OPPT

OPPT chemical fact sheets provide the public with information about chemicals released in the environment. They describe what each chemical is and list several of its more important commercial uses. They describe in a non-technical manner what happens to the chemical once it is released into the environment and how the chemical may affect human health and the environment. They also provide the reader with a contact list for additional chemical information. Each fact sheet is accompanied by a more detailed summary that gives the technical basis for each statement that it contains. Both the fact sheet and its technical support document can be found on the Internet at <http://www.epa.gov/chemfact>. Also, both are available in printed form and can be requested from the Toxic Substances Control Act (TSCA) hotline at (202) 554-1404. Currently, there are thirty-one chemical fact sheets available to the public.

OPPT chemical fact sheets originate from the group of scientists responsible for assessing risks for industrial chemicals covered under the Toxic Release Inventory (TRI) and TSCA. The group has been assessing chemicals for more than twenty years. They collected and processed volumes of assessment information on thousands of chemicals. The chemical fact sheet initiative is the group's attempt to share some of its information with the public. The standing goal of this group is to provide the public with fact sheets for forty or more additional chemicals each year.



# Industry Expansion: Training for the Newly-Added Industries

Tim Crawford, OPPT

## *What is Industry Expansion?*

On May 1, 1997, a final rule was published to add certain industry sectors to the current list of facilities required to report TRI information under Section 313 of the Emergency Planning and Community Right-to-Know Act of 1986 (EPCRA). Known as TRI Industry Expansion, the addition of these industry sectors will greatly strengthen community right-to-know by providing information on toxic chemical releases and waste management from a broader facility base.

This final action also amends the interpretation of the term "otherwise used," which is one of the activity thresholds that triggers TRI reporting. EPA amended this definition to include the treatment, stabilization, and disposal of toxic chemicals received from off-site for waste management purposes or generated during the waste management of materials received from off-site. This amendment provides additional information on waste management activities (beyond the amounts managed by commercial hazardous waste treatment and disposal facilities) at facilities covered under TRI.

The addition of the new industries and the revised interpretation of "otherwise used" will be effective for activities conducted during the 1998 calendar year with reports due on or before July 1, 1999.

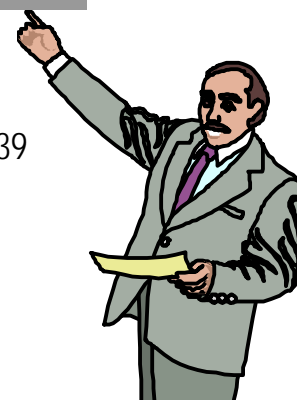
## *Industry Training*

Since the final rule was published, EPA developed guidance documents to assist each of the newly added industries to understand and comply with EPCRA section 313 requirements. These documents were circulated for industry review and comment and are now final and being made available.

EPA, along with contracted assistance, is in the process of conducting training sessions in each of EPA's regional locations prior to the effective date. The training sessions last two days and consist of an overview of EPCRA Section 313 reporting requirements and modules which provide exercises in interpreting and completing reports for each of the new industries.

For more information on TRI industry expansion and industry training, please contact Tim Crawford at (202) 260-1715.

Industry	SIC Code
Metal Mining	10
Coal Mining	12
Electric Utilities	4911, 4931, 4939
Commercial Hazardous Waste Treatment	4953
Chemicals and Allied Products - Wholesale	5169
Petroleum Bulk Terminals and Plants	5171
Solvent Recovery Services	7389



# Using TRI to Measure Progress: A Regional Perspective

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EPA Region 1 - New England

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The National Council on the Aging, Inc.

Over the past ten years, the Toxics Release Inventory (TRI) data has given everyone an opportunity to access chemical specific information at the facility, local, state, regional and national levels. One can query the TRI data by media specific emissions, waste generation and transfers, on and off-site treatment activities for 650 toxic chemicals, and chemical categories. The Pollution Prevention Act (PPA) of 1990 required industries to report additional data about waste management activities and pollution prevention or source reduction information on their TRI Form Rs. This additional information allows an individual to query TRI about the total waste generated by a facility. The total waste generated includes toxics that are released, recycled, burned for energy recovery, treated and disposed both on and off site.

The public's initial and continued interest has been focused on the total environmental releases of these toxics to the air, water and land including underground injection. Which facilities, states or parent companies are in the "Top Ten" has dominated the press coverage of the yearly TRI public data release. Our national, regional, state and facility successes have been measured by relative decreases in total environmental releases. Federal and state agencies often have targeted the facilities with the "biggest/largest" total environmental releases for attention.

## Region 1's Approach

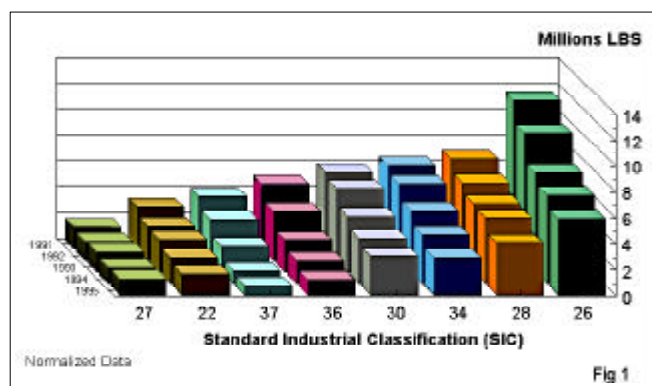
In New England, three of our six states have Toxics Use Reduction (TUR) or Pollution Prevention laws which have created a focus on preventing waste, also called source reduction. EPA - New England and state agencies are now focusing on the "biggest/largest" waste generating facilities. Due to the Pollution Prevention Act of 1990, everyone has had the ability to query, sort, and rank total waste generation for TRI data since 1991. Progress in terms of the rate of reduction for total waste generation has not paralleled the continued decreasing rate for total environmental releases.

Although some have questioned and openly debate the success of pollution prevention and the affects of the states TUR laws, no one debates that, if given the op-

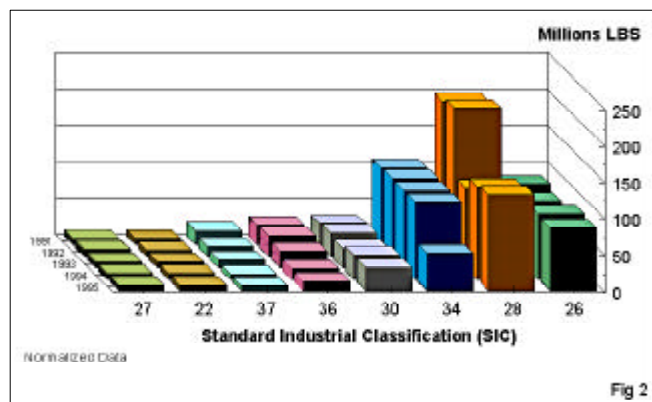
portunity, preventing waste and pollution is preferable to managing waste and pollution. Several corporations and facilities, which joined the 33/50 Program (an EPA program in which industries voluntarily committed to reduce the release of chemical waste), have shown the environmental and economic advantages of pollution prevention. The Pollution Prevention Act established a national policy that states pollution should be prevented at the source whenever feasible.

With the recent challenges posed by Congress and our Agency, we have looked to the TRI data (specifically, waste generation data) to find opportunities to better direct our assistance efforts and measure the resulting

*New England 1988-1995  
TRI Release to Environment*



*New England 1991-1995  
TRI Waste*





progress. In the past, those sectors (Fig. 1) accounting for the largest releases would be targeted. When the TRI waste generated data (Fig. 2) is analyzed, however, another picture is found. For example, the chemical and fabricated metals industries rank #1 and #2 for waste generated but the paper industry, traditionally ranked #1 for environmental releases. A multi-year analysis shows a significant decrease in total waste for the fabricated metals industry, which is neither explained by decreased reporting or decreased production. That is, the production process itself has become less polluting. This decrease in total waste production may be the results of our New England Environmental Assistance Team (NEEAT) work with this sector as well as EPA's Common Sense Initiative. The paper industry, on the other hand, shows little or no reduction in the first three years

and an actual increase in waste generation in the last two years. While the chemical industry profile showed a continued reduction in environmental releases, Figure 3 shows initial decreases and then increased waste production. Further analysis of waste generation data shows a forecasted increase in waste production in 1996 and 1997 for this sector.

Ranking our six states by total environment releases always has Connecticut and Massachusetts, the two largest manufacturing states in New England, as #1 and #2. In all the TRI reporting years (1987-1995), each of our six New England states had overall decreases in environmental releases which exceeded the national average decreases; cumulative decreases also exceeded the national average. Another way to analyze how well states are doing is to consider the number of facilities compared to total emissions (total environmental releases). Figure 4 clearly demonstrates that both Maine and Connecticut facilities rank on an

emissions per facility basis as #1 and #2, respectively, with Massachusetts #6. Does this show an effect of the Massachusetts Toxics Use Reduction law? Further analysis of the 1991-1995 TRI, waste generation data (Fig. 5) clearly demonstrates that average waste production of facilities in Maine and Connecticut are more than double those of the four other states. The comparisons of states with P2 and TUR laws mandating prevention activities with those

#### New England 1991-1995

##### TRI - Chemical Manufacturers

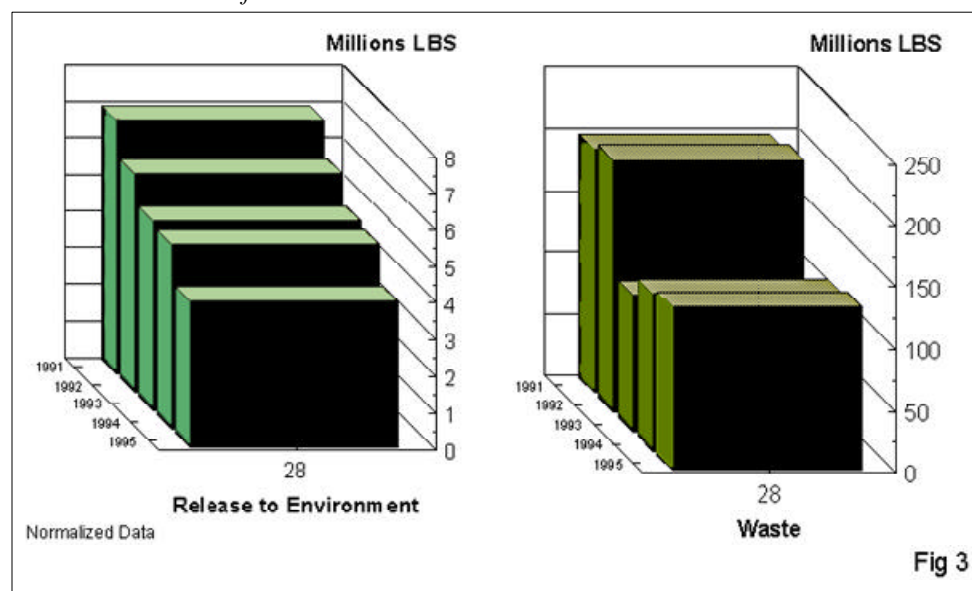


Fig 3

#### New England 1988-1995

##### TRI Total Releases per Facility

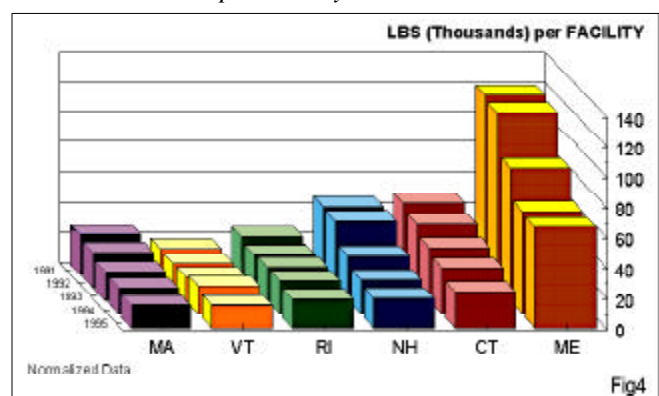


Fig4

#### New England 1988-1995

##### TRI Total Waste per Facility

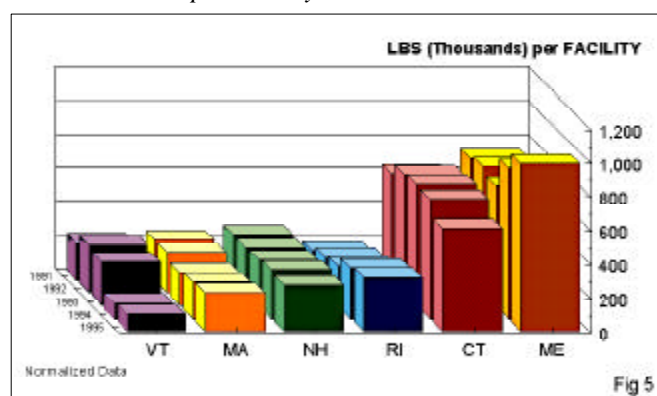


Fig 5

# Toxics Release Inventory User Support (TRI-US) Services

Lisa Flemming, OPPT

Under the Emergency Planning and Community Right To Know Act (EPCRA) Section 313, Congress mandated that the TRI data collected by EPA be made publicly available "by electronic and other means." Hence, the Office of Pollution Prevention & Toxics (OPPT) established the Toxics Release Inventory User Support (TRI-US) service to support TRI products and facilitate public access to the TRI data.

TRI-US provides access and user support to citizens, industry, environmental and public interest groups, libraries, the international community, media, academia, federal, state and local agencies. Since the TRI data are available in a variety of formats, TRI-US staff can help a patron determine the TRI data product best suited for their needs.

TRI-US provides comprehensive search assistance for the TRI on-line and CD-ROM databases. Search assistance includes access to a product, installation or search instructions, product troubleshooting, and search strategies. On a limited basis, TRI-US can help individuals perform searches.

In addition to access, user support and search assistance, TRI-US conducts training and demonstrations for both the TRI CD-ROM and the National Library of Medicine/TOXNET, which includes the TRI data, through individual sessions and workshops.

Staff attend conferences and exhibits to promote TRI awareness, access available products, and increase usage of data. TRI-US also distributes documents that present and explain the TRI program such as the Public Data Release book, the TRI Information Kit, and the TRI List of Chemicals.

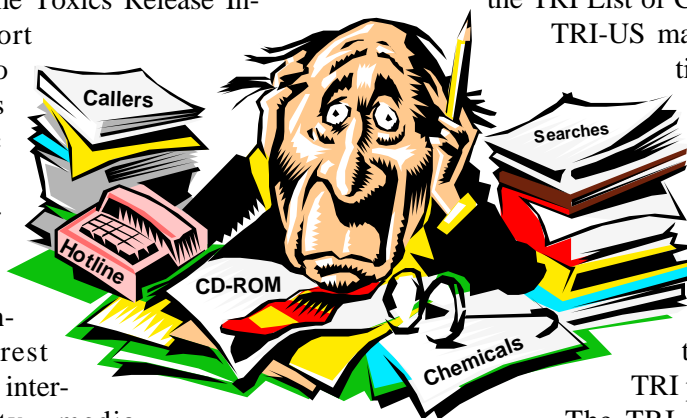
TRI-US maintains up-to-date information about the TRI program.

However, a patron may be referred to a more appropriate person or service (inside or outside EPA) if a question cannot be answered by the TRI-US staff and/or requires additional information outside the TRI program.

The TRI program also maintains a website on the Internet where patrons can send TRI questions. TRI-US staff will answer these questions and/or refer patrons to the appropriate Internet address for more information. TRI-US can be contacted by phone, fax, email, the Internet or mail.

## How to Contact TRI User Support:

U.S. Environmental Protection Agency  
Toxics Release Inventory User Support (TRI-US)  
Office of Pollution Prevention and Toxics (OPPT)  
Information Management Division (MC: 7407)  
401 M Street, SW  
Washington, DC 20460  
(202) 260-1531  
Fax: (202) 401-2347  
E-mail: tri.us@epamail.epa.gov



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states which do not, therefore, pose many more questions than answers as to why certain industries prevent pollution while others choose to manage pollution.

Region 1's Office of Assistance and Pollution Prevention now provides trend analysis of TRI data on total environmental releases and total waste generated. In New England, progress will be measured both by the indi-

vidual success stories and reduction of the TRI bottom line: total waste generation. Progress may be measured by the pounds of toxics prevented from reaching the waste stream. This gives a better indication to the relative efficiency of the process and facility. Ultimately, the success of TRI and Pollution Prevention is measured at each individual facility.



# TRI/Right-to-Know Conference

Geraldine Nowak, OPPT

The Toxics Release Inventory and Right-to-Know Conference convened in Washington, D.C. on September 8-10, 1997, amidst the largest group of participants in its conference history. What was once the TRI Data Use Conference was expanded to integrate other RTK issues and information. Some participants embraced the concept with enthusiasm; others met it with caution, skepticism, or somewhere in between. The conference identified how the stakeholders could use the Toxic Release Inventory (TRI) and Right-to-Know (RTK) information. Dialogues were held among stakeholders and sessions aimed toward finding mutually beneficial goals which will improve TRI and RTK information.

The conference featured many distinguished speakers committed to promoting Toxic Release Inventory (TRI) and Right-to-Know (RTK) issues and programs. EPA Region III Administrator, Michael McCabe, opened the conference focusing on the fact that before TRI there was no way for citizens to know about toxics in their community. TRI has had a positive effect on both communities and industries because it enables communities to interact with industries in the neighborhood. Also, industry utilizes the TRI to capitalize on source reduction opportunities. As the keynote speaker, Dr. Lynn Goldman, EPA Assistant Administrator for Prevention, Pesticides, and Toxic Substances, reminded everyone of the history behind the legislation, highlighted TRI and RTK accomplishments, and mentioned the program's expansion. She further emphasized that the power of information provides real time tools to help families protect themselves and their communities.

Twenty-four panels of distinguished speakers shared their expertise, knowledge, and ideas for the future of TRI and RTK by addressing six broad questions:

- What are the key TRI data issues?
- How can TRI be used for Pollution Prevention?
- What are the TRI use success stories?
- What information do communities need?
- How can we integrate RTK information?
- How can the various stakeholders work better together, including the local and international perspective?

The Unison Institute, the conference sponsor, successfully planned each panel to reflect views from a variety of stakeholders, representing the 600 participants from federal, state and local government, industry, advocates, academia, citizen groups, media, and interna-

tional organizations. Speakers discussed their ideas and vision, and also shared practical experience on data use and analytic approaches.

The Right-to Know Village housed forty-five exhibits which featured various information access tools developed by federal and state government, the commercial sector, and citizen and consumer advocacy groups. The village offered an opportunity to talk directly with RTK proponents on local environmental matters. The conference offered several demonstrations and training courses to teach participants how to use various information access systems and tools.

The three plenaries covered stakeholder views on the legislative history and net effect of TRI and RTK, and provided insights into the future. Comments from the audience flowed freely after the plenaries and panels; participants shared their concerns, frustrations, and hopes with the panelists.

During the closing plenary, EPA Administrator Carol Browner thanked stakeholders for working together with a sense of common purpose to improve the use of environmental RTK information and for making RTK initiatives work for everyone — communities, state and local government, and the reporting industries. She reiterated this Administration's goal of right-to-know as a vital part of the presidential agenda for protecting public health and the environment. EPA is making this goal a reality as a means to solving environmental problems.

*Author Note: Thanks to all those who gave their precious time and vast talents to make the conference a source of inspiration, common purpose, and renewed dedication to environmental protection.*



Photo courtesy of Tom Murray, OPPT

*EPA/OPPT's Internet and CD-ROM exhibit at the TRI/Right-to-Know Conference held on September 8-10, 1997 in Washington, DC.*

# Stakeholder Dialogue on TRI Reporting Forms and Reporting Practices

Michelle Price, OPPT

On April 22, 1997, EPA completed a rule under the Emergency Planning and Community Right-to-Know Act of 1986 (EPCRA) Section 313 to add seven new industry sectors to the Toxics Release Inventory (TRI) program. (For a list of sectors, see *Industry Expansion*, page 5.) These newly added industry groups will provide significant information on TRI chemicals and engage in activities directly related to the support of manufacturing activities already covered under TRI. Certain facilities within these industry groups will begin submitting activity reports by July 1, 1999, containing data collected during the 1998 calendar year. (See *Expanding the Public's Right to Know*, page 3.)

Announcing the industry expansion rule, the Vice President said that EPA would initiate a comprehensive stakeholder process to evaluate the current reporting forms and reporting practices relating to the TRI program. The goals of this process will be to improve the type of right-to-know information available to communities and to help streamline right-to-know reporting to ease the paperwork burden for businesses affected by the requirements. EPA is using the Toxics Data Reporting Committee (TDR) of the National Advisory Council for Environmental Policy and Technology (NACEPT) and additional stakeholder meetings to obtain input from interested parties on these issues.

Under the Federal Advisory Committee Act, NACEPT provides advice and recommendations to the Administrator of EPA on a broad range of environmental policy issues. TDR is a committee created under the auspices of NACEPT. The committee currently consists of twenty-three members from industry, academia, government agencies, environmental groups, environmental justice groups, labor organizations, and public interest groups.

Over the next year, TDR will identify improvements and burden reduction measures (i.e., industry must undertake to report TRI data) in the TRI program. EPA

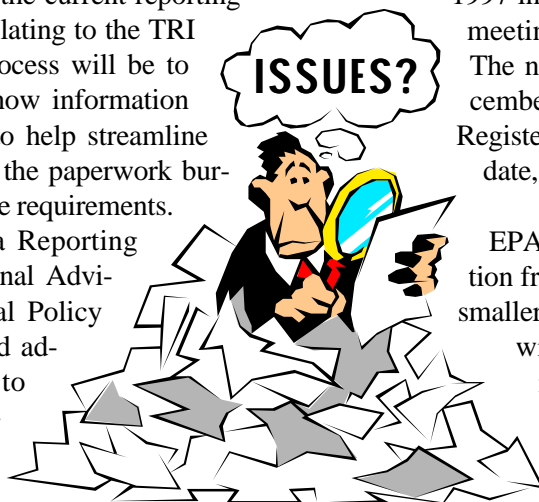
will review the recommendations received from NACEPT and use them to make decisions about changes to TRI Form R and Form A. Administrative changes to the reporting forms can be made expeditiously; however, substantive changes require a formal notice and comment rulemaking. Some examples of issues that will be discussed by the group include: format and nomenclature used in the Form R; additional clarification of the elements in the Form R; opportunities for burden reduction in both the Form R and Form A; and EPA's presentation of the data in public information documents.

The public as well as other interested parties may attend the TDR Committee meetings. The first TDR Committee meeting was held on September 29 and 30, 1997 in Washington, DC. An additional six meetings are planned over the next year. The next meeting is planned for early December, 1997. EPA will publish Federal Register notices of meetings to announce the date, time and location of the meetings.

In addition to the NACEPT process, EPA plans to obtain views and information from stakeholders through a number of smaller meetings for interested parties. EPA will hold approximately nine public meetings over the next year regarding the issues outlined above. The first three meetings are scheduled for October 30, 1997 in San Francisco, CA; November 13, 1997 in

Washington, DC; and November 20 in Chicago, IL. These efforts are aimed at not only at reducing the burden to industry but improving the quality and practical utility of the information in the TRI program.

For more information about the TDR Committee or other public meetings on these issues, please contact Michelle Price at (202) 260-3372 or [price.michelle@epamail.epa.gov](mailto:price.michelle@epamail.epa.gov).



# TRI and the CD-ROM: Present and Future

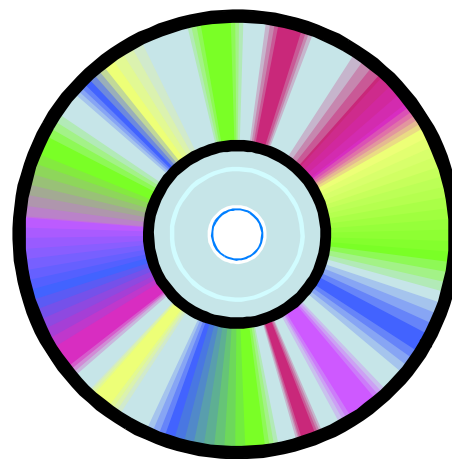
John Nowlin, OPPT

Beginning in 1989 and every year thereafter, EPA has published a CD-ROM containing the Toxics Release Inventory (TRI). The Office of Pollution Prevention and Toxics (OPPT) publishes the entire TRI database from 1987 through the current reporting year. This year the TRI data is available through reporting year 1995 on two compact disks in a format that allows for easy searches of the data.

The TRI CD-ROM contains software that is meant to be flexible and powerful, with the ability to search over 200 fields (e.g., by chemical, company, kind of release, or zip code, and across multiple years of data). The CD-ROM also allows users to conduct multiple and complex queries, which is especially useful to those individuals or groups who wish to analyze trends or perform statistical analysis. Aside from the TRI data, the CD-ROM provides a wealth of other TRI information. It contains a tutorial, the annual TRI Data Release Book and the State Fact Sheets, TRI's reporting form (Form R), and Chemical Fact Sheets on selected chemicals.

Each year, the TRI CD-ROM reaches new audiences and increases its distribution. Currently, the CD-ROM circulation is over 4,000, including libraries and public interest groups. Future plans to appeal to a wider audience include distribution in conjunction with educational materials. Through a grant with the National Science Teachers Association (NSTA), the TRI CD ROM will be the centerpiece in a cross-disciplinary set of classroom materials and activities. These materials should be available for 1998 school year.

OPPT plans to release a user-friendly Windows version later in 1998 (containing 1987-1996 data) that will be faster and easier to use than the DOS format of past years. The Office is also aggressively pursuing the integration of additional tools into future releases such as statistical packages complete with tables and charts, mapping packages, multimedia, and Internet connectivity.



## How to Get Your Copy of the TRI CD-ROM:

To make TRI information widely available for public use, the CDs are distributed free of charge to all non-profit organizations, schools and government agencies who request a copy. Free copies may be obtained by calling the National Center for Environmental Publications and Information (NCEPI) at (800) 490-9198.

The general public can purchase the CDs from the National Technical Information Service (NTIS) by calling (800) 553-6847 and asking for PB97-502-587 or by calling the U.S. Government Printing Office (GPO) at (202) 512-1800 and requesting stock #055-000-0582-6.

The CD-ROM is one of the many ways in which OPPT disseminates TRI information to the public. Other sources of TRI Data include a new diskette containing Standard Industrial Classification (SIC) codes, and diskettes containing TRI Data for each State, both of which may be obtained from NCEPI, NTIS, or GPO. Another easy way to access TRI data is through the Internet at: <http://www.epa.gov/opptintr/tri>.

# EPA Software Streamlines TRI Reporting by Facilities

Jan Erickson, OPPT

Since inception of the TRI program, one of EPA's goals has been to simplify the reporting required under the Emergency Planning and Community Right-To-Know Act (EPCRA) and the Pollution Prevention Act. Hotlines, training, and publication of industry-specific guidelines are just a few examples of the many efforts undertaken to help meet that goal. To further simplify the reporting process, EPA developed the Automated Form R (AFR) reporting software.

Several years ago, the AFR software allowed facilities the option of creating TRI reports on their own computers and sending EPA electronic copies on a floppy disk, instead of filling out the printed forms manually. Not only did it make reporting much easier for the facility, it eliminated re-keying of the data by EPA. The results were faster processing, fewer data entry errors, and improved data quality. Since then, use of the AFR has increased in popularity. A growing number of facilities using the software -- accounting for nearly 60% of all TRI submissions. In addition, all but ten states (which also receive TRI data) are accepting floppy disks created by AFR software, instead of printed forms.

In 1997, in response to a growing demand by AFR users, the Office of Pollution Prevention and Toxics (OPPT) distributed a Windows 3.1 version for the first time. The new AFR software included many features germane to the Windows environment, for example, menu and tool bars, buttons, etc. EPA distributed the Windows AFR software and printed instructions automatically to all TRI facilities; a DOS version was available on request.

In addition, individuals can download either the Windows 3.1 and DOS versions of the AFR software from the TRI home page on the Internet ([www.epa.gov/opptintr/formr.htm](http://www.epa.gov/opptintr/formr.htm)). This allowed facilities that preferred DOS software to obtain it immediately, without waiting for EPA to send them a floppy disk in that format. The Web site was espe-

cially helpful in communicating with TRI facilities during the reporting period. It enabled EPA to post improved versions of the software, more detailed instructions, and answers to frequently-asked questions. Facilities were also able to communicate their questions directly to the EPCRA Reporting Center using e-mail over the Internet.

EPA's goal is to reach 80% electronic submittal in the 1997 reporting year and 90% in the following year. This is a very ambitious goal, but with industry's support and cooperation, it can be reached!



EPA is presently updating the AFR software for reporting 1997 TRI submissions due to EPA on July 1, 1998. We are developing an additional version of AFR optimized for use with Windows 95 and Windows NT. As of this writing, an independent software testing firm, as well as volunteers from the reporting community, are conducting rigorous beta testing to ensure that the software performs correctly.

For more information about AFR software, please call Jan Erickson at 202-260-3801.

# Chemical Use

Matt Gillen, OPPT

The Toxics Release Inventory (TRI) is the public's primary source of information on the toxics in our environment. To broaden its scope, two Agency actions have recently expanded the chemicals and industries covered under TRI. (See *Industry Expansion*, page 5.)

EPA's Phase 3 project is another expansion project; it looks at adding chemical use information to TRI. EPA has been actively exploring chemical use information in order to improve the public's ability to evaluate a range of important environmental issues that exist in communities. By chemical use, EPA is referring to what is known as materials accounting information: amounts of listed chemicals coming into a facility, amounts manufactured or consumed on site, and amounts leaving the facility in products and wastes.

EPA believes that chemical use data could improve the public's understanding of environmental issues that arise from the use of chemicals at a facility. Materials accounting information:

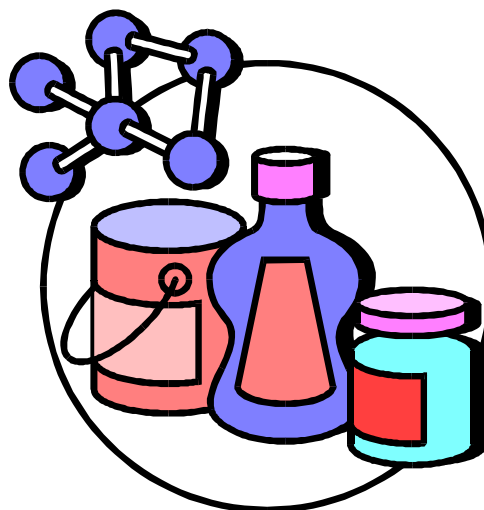
- Improves the ability to evaluate facility source reduction and pollution prevention performance,
- Focuses emergency planning efforts related to the transportation of chemicals through communities,
- Provides a handle on the amounts of toxic chemicals going into products, and
- Improves the ability to address worker safety and health issues.

The importance of this initiative was illustrated in August 1995, when President Clinton sent a memorandum to the EPA Administrator to facilitate TRI expansion. The memorandum directed EPA to develop "an expedited, open, and transparent process for consideration of reporting under EPCRA on information on the use of toxic

chemicals at facilities, including information on mass balance, materials accounting, or other chemical use data."

EPA has held several public meetings on Phase 3 and issued an Advance Notice of Proposed Rulemaking (ANPR) to take comment on chemical use issues. Over 40,000 comments were received, with strong opinions expressed on all sides. Environmental groups generally supported chemical use reporting, stating that it fills in some important gaps in TRI. Industry groups generally opposed materials accounting, questioning its value for communities and expressing concerns about the potential loss of sensitive business data to foreign competitors.

EPA has reviewed the comments and issues as well as reviewed the two state programs (Massachusetts and New Jersey) that already collect chemical use information, and is continuing to evaluate a number of other issues. EPA is currently considering its options and anticipates a decision by early 1998 on how best to proceed with chemical use reporting.





# State Perspective: Ohio's TRI Program

Cindy DeWulf, Ohio EPA

Ohio EPA's Division of Air Pollution Control (DAPC) coordinates the Toxics Release Inventory (TRI) program in Ohio. The Ohio Right-to-Know Act of 1988 gave Ohio EPA authority to administer and enforce Section 313 of the federal Emergency Planning and Community Right-to-Know Act (EPCRA) and establish filing fees for covered facilities to support the TRI program.

Today, Ohio EPA is focusing its efforts on compliance assistance and outreach. Ohio EPA will be working with facilities to help them understand recent changes to the chemical list and addition of new industrial sectors. Ohio EPA will continue its ongoing outreach efforts that include informing all new facilities building within Ohio of the EPCRA reporting requirements. Through the release of Ohio EPA's annual TRI report, the impact of any changes to the reporting requirements also will be explained to communities.

The TRI data has become a significant tool for Ohio EPA to improve environmental quality as demonstrated by the following actions:

- DAPC uses TRI data to help identify facilities which are subject to new regulations, such as Section 112(r) of the Emergency Preparedness and Response Program required by the Clean Air Act. TRI data is used to evaluate industry compliance with recently adopted rules concerning toxic releases. TRI data is also used to focus efforts in ambient air monitoring evaluations, and to determine county-wide levels of toxics for air pollution studies.
- Ohio EPA's Office of Pollution Prevention used TRI data to identify the top 100 facilities that report the most releases of toxic chemicals to the environment. These facilities were invited to join Ohio Prevention First, a program in which facilities voluntarily develop comprehensive pollution prevention plans.
- Ohio EPA's Division of Surface Water (DSW) uses TRI data to develop water quality based effluent limits for National Pollutant Discharge Elimination Sys-



tem (NPDES) permits. DSW's pretreatment program also uses TRI data when developing indirect discharge permits. The state screens the data to determine if additional pollutants need to be evaluated for possible inclusion in the permit.

- TRI data was used to fill information requests from private citizens, legislators, journalists, schools, consulting firms, attorneys, business and trade associations, environmental groups, industry, and various state and federal agencies.
- The public uses TRI data to raise awareness regarding the toxic chemicals released from manufacturing industries within their communities.

Ohio EPA continues to work with US EPA on TRI implementation. Through the Forum of State and Tribal Toxics Action (FOSTTA), US EPA meets with states to discuss the implementation and administration the TRI program. FOSTTA conducts the annual survey of state TRI programs which is included in the national TRI data release. Through FOSTTA, states and US EPA have become more aware of each other's needs. Ohio EPA chairs the FOSTTA TRI workgroup.

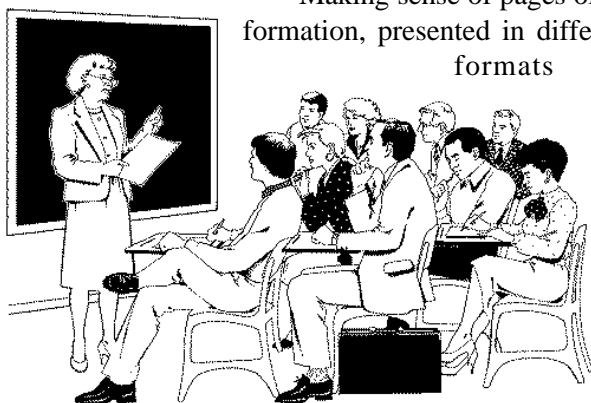
# A Non-Profit Organization's Perspective on TRI

Terry Greene, JSI Center for Environmental Health Studies

The JSI Center for Environmental Health Studies is a non-profit public health organization. It provides scientific, technical, and organizational assistance to community, labor, and environmental organizations which address health problems arising from exposure to toxic chemicals. The Center helps citizens' groups investigate and respond to suspected environmental hazards by providing technical information, as well as assistance in conducting and reviewing health studies and in developing strategies to reduce the risk of exposure to toxic materials. Through training activities and educational materials and programs, the Center strives to empower these groups to play an informed and effective role in solving environmental problems.

JSI found that the right to know about toxic hazards in workplaces and communities is key to the public's ability to protect themselves, their families, and the environment. The EPA's Toxics Release Inventory (TRI) is a valuable tool for community right-to-know. However, there remains a need to promote awareness of TRI (and complementary environmental and health information from federal, state, and local databases, registries, and reference materials) and to assist citizens in using it. For many people, the only sources of environmental information are media reports on toxic hazards which too often leave citizens feeling confused and powerless. The ability to locate, understand, and use various forms of information on the environment and health is vital to citizens in taking their rightful place as equal partners with government and industry to make decisions that affect their communities, health, and children's future.

Making sense of pages of information, presented in different formats and



measurement units, can challenge even citizens with technical backgrounds. To truly benefit from public access to information, citizens need details on how to obtain and interpret environmental quality indicators and health status information specific to their communities. They should have an understanding of basic principles for evaluating health risks, along with adequate technical assistance and analytical tools that can help in risk screening. Citizens also need to be familiar with various strategies for pollution prevention in homes, communities, and workplaces and enhanced opportunities to participate and take action in each of these arenas, such as funding to compensate citizens for their service on advisory committees and support for organizational development for community-based organizations.

JSI is working with EPA Region 1 and the Office of Pollution Prevention and Toxics (OPPT) on outreach and education efforts to communities. These include a Massachusetts pilot which trained librarians in the use of resources such as the TRI, and subsequently sponsored workshops within libraries for their respective communities. The project was designed to encourage community-wide use of publicly available information by:

- Building the capacity of libraries to serve as local environmental information centers available to their communities;
- Introducing broad sectors of the community (including local officials, members of environmental, citizen, and labor groups, and representatives from health agencies, schools, and industry) to information on local health and the environment; and
- Creating a forum that fosters collaboration among these sectors to use these information resources to identify and prevent pollution at the local level.

Most important among the lessons learned is that TRI outreach is not simply a matter of introducing EPCRA and the TRI and then demonstrating various search engines. Community outreach must start with the concerns and needs of the community, and TRI data must

# Putting Environmental Information in the Classroom

Odelia Funke, Chief

OPPT Information Management Division - Information Access Branch

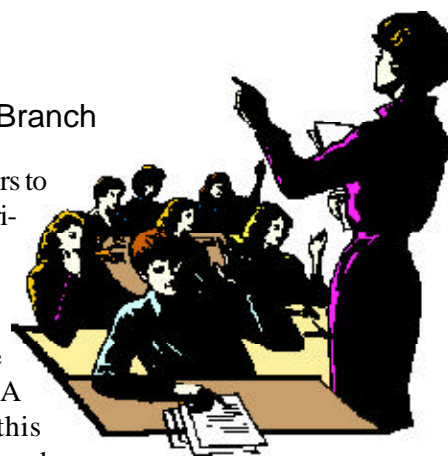
The Toxics Release Inventory Program taught EPA the value and power of bringing environmental information to the public. As a result of the experience with TRI, OPPT has redoubled its effort to provide information from all of its programs to various kinds of audiences. Making the information truly useful requires that OPPT presents it in a number of different formats and contexts.

In 1995, OPPT developed a strategy to tailor environmental information products for educational purposes. During this process, the Office decided to embark on a partnership with the National Science Teachers Association to develop an information product for high school students. NSTA already had experience in creating a set of cross-disciplinary classroom materials, with related student activities, focused on environmental subjects. This kind of educational package is designed for presentation by teachers in different subject areas, with different perspectives; the teachers coordinate their efforts to present the topic across disciplines.

NSTA was particularly interested in building this kind of educational package using a large database. OPPT and NSTA agreed on a cross-disciplinary classroom product based on the TRI database. NSTA worked closely with

teachers and writers to develop the materials, which are currently in draft. Once reviews and revisions are completed, NSTA will introduce this new tool to its members and science teachers across the country.

For OPPT, this collaborative effort is providing a new way to present TRI information to an audience that generally would not be aware of it. Students and teachers will learn how TRI data, and other environmental information, can be relevant to their communities. This project also might provide a model for ways in which OPPT can make other programmatic information more relevant and available to students. Working with environmental data in this way highlights some of the complex issues and unanswerable questions posed when we analyze environmental data. Through these kinds of products, OPPT hopes to engender a better appreciation and understanding of environmental issues and goals.



(continued from page 15)

be presented within the context of what is of interest to the community and its various sectors. The term outreach itself is misleading in that it implies "experts" going out to spread their knowledge. Successful outreach is actually a dialogue in which an outside advisor has just as much to learn from residents, area businesses, and local government as they do from the advisor.

Additionally, JSI combines TRI and Massachusetts data on toxic chemical use reporting. This is especially timely given the current policy debate on Phase III expansion of TRI to include chemical use data. Contrary to fears expressed by some people opposed to TRI Phase III expansion, the Massachusetts experiment shows that information on total chemical use and industrial processes encourages the public to take a more reasonable look at facility data. The additional data allows for a more pre-

cise identification of potential exposure scenarios and opportunities for pollution prevention. It also highlights when certain reductions in chemical use would be difficult to attain and not produce much benefit.

JSI has developed training materials on conducting outreach efforts on community-based environmental data used in national workshops for health professionals, environmentalists, academics, and community advocates. Included in these materials is JSI's tutorial, *Environment and Health: How to Investigate Community Environmental Health Problems*, which provides an introduction to TRI and various complementary sources of environmental and health information. A workshop was recently held at the American Public Health Association Conference in Indianapolis. Contact Terry Greene at (617) 482-9485 for more information about these sessions or materials.

# TRI Relative Risk-Based Environmental Indicators

Nick Bouwes, OPPT  
Steven Hassur, OPPT

In order to provide a risk-related perspective for assessing the relative impacts of TRI chemicals on the U.S. population, OPPT developed an environmental indicators model as a Microsoft Windows-based computer application. The TRI Relative Risk-Based Chronic Human Health Indicator takes into account the relative potency of individual chemicals, the quantity of these chemicals to which the general, non-worker population is exposed, and the size of this population. This screening-level tool allows for a broad spectrum of users to examine a multitude of environmental issues.

The TRI Indicators model incorporates eight years of TRI reporting data on most of the significant chemical releases reported by more than 27,000 facilities. Indicator values are relative ranking numbers. The data elements computed by the indicators can be viewed at a national level or disaggregated in a wide variety of ways, e.g., by medium, chemical, geographic area (EPA Region, state, county, city, zip code), industry sector, reporting facility, year or a combination of these and other variables. Besides risk-related assessments, the model enables users to examine TRI reported emissions from a pounds-only perspective, as well as investigate the influence of toxicity weights and population on the final values. The TRI indicators model not only allows the analyst to examine trends, but to rank and prioritize chemicals for strategic planning, risk-related targeting, and community-based environmental protection purposes as well. This will potentially allow communities to direct scarce public resources toward the most pressing environmental needs and provide a basis for

establishing a dialogue with local TRI reporting facilities.

OPPT is developing the Environmental Justice (EJ) Module which will pro-

vide a unique capability for examining, in a comparative manner, estimates of the aggregate risk-related impacts on user-selected geographic locations from all TRI on-site releases and off-site transfers. Combined with demographic information on affected populations (such as race, income or age), the indicators are used to investigate EJ issues related to the distribution of risk-related impacts.

There is no correlation between the toxicity criteria used to make listing/delisting decisions under EPCRA section 313 and the methodology used to rank chemicals for the indicators. EPCRA sets out statutory toxicity criteria for listing chemicals on the basis of acute human, chronic human and/or environmental toxicity which each chemical on the TRI list meets. To investigate the *relative* risk-based impacts associated with emissions of these chemicals, the indicators must differentiate their *relative* toxicity and rank them in a consistent manner. The ranking of each chemical reflects its single, most sensitive *chronic* human health toxicity endpoint for inhalation and oral exposure pathways. Note that this ranking is only relative to other chemicals which are included in the indicators, not to some benchmark or absolute value.

Working relationships were established with other EPA Offices, e.g., the Office of Enforcement and Compliance Assurance's Sector Facility Indexing Project (providing information to communities on hazard-weighted TRI releases within five industrial sectors) and the Federal Facilities Office's Environmental Justice Enforcement Initiative (a national report based in part on risk-related analyses provided by the Indicators). The EPA Science Advisory Board (SAB) recently conducted reviews of: (1) the indicators' toxicity weights, (2) the overall methodology, and (3) a consultation on the development of the chronic ecological indicator. The SAB expects to issue its final reports by year's end. An OPPT Internet home page will make available news about the model, documents, toxicity weights, and results.

For further information please contact: Dr. Nicolaas W. Bouwes, (202) 260-1622; (e-mail: bouwes.nick@epamail.epa.gov), or Dr. Steven M. Hassur, (202) 260-1735; (e-mail: hassur.steven@epamail.epa.gov).



# International Perspective: Pollutant Release and Transfer Registers

John Harman, OPPT



The Toxics Release Inventory (TRI) is an environmental management system that countries around the globe are implementing. It is expected that within the next few years, over 30 nations will be operating TRI-like systems, known internationally as Pollutant Release and Transfer Registers (PRTRs). This global movement is offering new opportunities, not only at the international level, but at the national level as well.

## *Compiling and Comparing PRTR Data*

An example is the work already underway in North America. An organization called the Commission for Economic Cooperation (CEC), created by a side-agreement to the North American Free Trade Association (NAFTA), has prepared a document that compares the PRTR data between Canada and the United States. Another CEC report builds on this study by actually compiling the common data. The result is a picture of releases and transfers of toxic chemicals across both countries. PRTR data from Mexico is to be included starting with the 1997 report.

There are benefits to this process of compiling and comparing PRTR data between nations. As pollutants do not respect political boundaries and releases in one country can affect the environment of a neighbor, the public should know about these chemical releases. Therefore, the public could benefit from PRTR data because they are able to obtain release and transfer data across a much larger area — in this case, the North American continent.

Another benefit is the ability to compare release and transfer data between the countries. It can be advantageous, for instance, to contrast the reporting patterns of an industrial sector in one country to that sector in another country regardless of the reason for the differences. Looking at individual chemicals or groups of chemicals can lead to fruitful investigation of one country's environmental regulations as a model for other countries.

## *Meeting International Obligations*

PRTRs also play a role in the work undertaken by the Organisation for Economic Co-operation and Development (OECD). The OECD is an organization comprised of the 29 most industrialized democracies, which last year issued a Council Recommendation calling on its member states to implement PRTR systems.

As part of its commitment to PRTRs, the OECD has integrated its PRTR work into its larger Chemicals Program. Among the objectives of this approach is to use the PRTR data as a tool for tracking progress toward meeting the many international agreements and conventions of which the OECD is a part. For instance, the OECD is working within the frameworks of the Persistent Organic Pollutants, the Climate Change Convention, and the Basel Convention. PRTR data can be used to track and monitor the progress at meeting the goals of these agreements both by individual nations and for the OECD community as a whole. Regional organizations, such as North America's CEC and European organizations (Convention on Long-Range Transboundary Air Pollution), have proposed similar steps.

## *Analyzing PRTRs*

An additional project that the OECD is presently undertaking is another example of the benefits of the internationalization of PRTR systems. This study is a look at the reporting patterns, plus the resulting benefits of reporting, by industries in countries with PRTR systems. By conducting this analysis, the OECD can highlight how the various PRTR systems affect the environmental activities and the environmental cultures at the reporting facilities.

## *Cooperation Between Nations*

The results of the OECD study will be one of the subjects at an international workshop on PRTRs. Japan, which is moving swiftly to develop its own PRTR system, will host this workshop in 1998. The workshop will be an opportunity for countries already operating PRTR systems, countries with PRTRs under development, and other interested nations, industry, and non-governmental organizations to meet and discuss the rapidly evolving status of PRTRs around the globe. As in every step of the PRTR process, the United States is an active participant.



# TRI-US Services: A Look at Customer Service, Satisfaction, and Assessment

Georgianne McDonald, OPPT

Before a product is developed or a service is provided, there are many things to consider in assessing the needs of the audience. Traditional program evaluations address the objective outcomes of a program, but products and services should also be evaluated, in terms of qualities such as accuracy, timeliness, usefulness and ease of access. Over the past several years, the Office of Pollution Prevention and Toxics (OPPT) has been conducting customer satisfaction surveys to help assess information products and services. Based on customer feedback, OPPT can modify its products and services to better meet the public's needs.

OPPT's TRI User Support (TRI-US) team provides a variety of products and services to a wide range of customers—individuals, communities, local and state governments, private businesses, non-profit organizations, Native American tribes, and others. To meet the needs and preferences of TRI-US customers, and to solicit feedback on the products and services currently provided, OPPT initiated a customer service review.

Methods of gathering customer feedback include focus groups, mail-out surveys, telephone surveys, hands-on-labs, or just plain, old-fashioned postcards. To determine the customers' level of satisfaction, OPPT chose to use a telephone survey for TRI-US services. This method would allow OPPT to:

- Gain insight into the identification of TRI-US service qualities of greatest importance to the public;
- Examine the gap between customer expectations and their perception of actual service performance; and
- Identify customers attitudes, opinions, and expectations, regarding the service.

For the TRI-US project, OPPT analyzed the TRI-US Caller Log Sheets to identify a sample set of existing customers for the survey. Identifying the target audiences for a product or service can be directed towards those who are personally interested in TRI, those who use it professionally for themselves, or those who use it to gather the information for others. The most likely and primary target for TRI-US services and information is the educated, non-technical information provider (e.g., county/state public health official, public interest representative, teacher, and community-based organizer, etc.) who has access to a network of people interested in TRI or environmental issues.

With the help of survey experts, OPPT designed the TRI-US telephone survey questionnaire; the experts are conducting the survey by making calls to customers. A final report on survey results is due to OPPT in mid-January 1998. OPPT expects that the survey will help target the kinds of TRI information services, and quality of service, that are most important to our customers.

Conducting surveys, assessments and focus groups serves as a valuable tool for recognizing and addressing the public's information needs. With customer feedback, OPPT seeks to find out whether TRI-US products and services are reaching the intended audience, are providing the kind of information people seek, and satisfying the public in terms of quality and timeliness.



# TRI: An Academic Perspective

John C. Pine, Ed.D., Associate Professor - Research  
Institute for Environmental Studies, Louisiana State University

The publication of the Toxics Release Inventory (TRI) in 1989 provided a means for examining environmental policies and strategies, and clarifying risks associated with toxic chemicals at the state and local level. For the academic community, the data submitted by manufacturing facilities at the state and federal levels meet rigorous standards and can be used to examine public policy and program strategies.

## *Quality of TRI Data*

Students and faculty in the academic community have been drawn to the TRI data because it provides a national perspective for collecting data at the national, state, and local level. The data do not focus on one area of the environment but include information from a broad perspective including air emissions, water releases, and land discharges. The data are collected nationally in a consistent manner under the guidance and support of the U.S. Environmental Protection Agency and the states. Users from the academic community believe that the collection procedures are valid and consistent. TRI data facilitate long-term assessments of national and state policies, and industry efforts to reduce emissions.

## *Applications of TRI Data*

TRI data provide a foundation for examining environmental programs and risk assessments. Three studies completed by faculty at the Institute for Environmental Studies at Louisiana State University demonstrate the wide use of the data by the academic community. The first was an objective examination of state environmental programs using the emissions-to-jobs (E/J) ratio which compares TRI data to employment. This ratio is determined by the number of pounds of emissions per year per job in a given industry and location.

There seem to be few objective standards available for evaluating state environmental programs and policies. A state may use the E/J ratio to examine total emissions by industry based on their standard industrial classification (SIC) code, as well as the total emissions by employment within the SIC code. The E/J ratio is also one way to see how state property tax exemptions affect new industries or the expansion of current industry operations.

In the second study, TRI was used to estimate total TRI emissions given the size and composition of a state's manufacturing sector as compared to the Green Index, a national listing which uses 256 indicators to categorize each state's environmental health. For example, TRI data from 1988, 1989, and 1990 may be used to estimate the difference between a state's expected level of total emissions and the reported value. States were ranked based on these estimated emissions and compared to the Green Index's "green conditions" and "policy conditions."

For the third study, TRI data were used to identify and assess areas in a state and the risks associated with accidental releases of hazardous chemicals. The study identified 12 to 15 parishes (counties) with the greatest risk of accidental releases from hazardous chemicals. These "high risk" parishes would be targeted for intensive hazards analysis efforts. In the study, TRI air emissions data were summed by parish along with pollution prevention (P2) reports submitted to the state Right-to-Know Office.

At the time of this analysis, Louisiana was one of only a few states that had an electronic database of the P2 chemical inventories of hazardous chemicals. In addition to the P2 chemical inventories, researchers selected a subset of the P2 data, including Extremely Hazardous Substances (EHS). A relative ranking of the parishes was established using the TRI air emissions, P2 chemicals and facilities, and EHS chemicals and facilities. A comparison of these rankings showed that the TRI air emissions was an excellent predictor of both the P2 chemicals and facilities rankings, and the EHS chemicals and facilities.

The three applications of the TRI data in research projects illustrate that the academic community is looking well beyond relative reductions in emissions by chemical or by media. In contrast to state TRI program officials or facility managers, the academic community combines the TRI with other data to examine public policy issues, environmental initiatives, and the relative risk of geographic areas with hazardous chemicals.



# Proof Positive: TRI Success Stories

Marla Hendriksson, OPPT

Now in its eleventh year, the TRI program continues to expand its outreach. As the Right-to-Know concept broadens its purview, more and more people are interested in learning about the TRI's successes. To meet this growing interest, EPA is creating a compendium of success stories. The purpose of this compendium is to collect and share information on the program's uses for addressing and enhancing public awareness of the potential risks posed by toxic chemicals released into the environment by industrial facilities.

Many facilities realize the environmental and societal benefits of disclosing their information. As a result of the program's influence, EPA has expanded the list of chemicals and industries covered under TRI. There has also been a doubling in the number of chemicals reported by facilities around the US. Over 31,000 facilities are now submitting reports, representing a 30% increase over the past year. To date, there are over 600 chemicals listed in the database.

The recent TRI/Right-to-Know Conference held in Washington, DC presented an opportunity for TRI to celebrate its successes. In the opening and closing plenaries as well as in a course entitled, "Success Stories of TRI Use," there were several discussions on how TRI has made a positive impact through communities, industries, State and local government, advocacy groups and other organizations. Here are some of the highlights in TRI's achievements as mentioned in the conference:

## **Business and Industry**

In the steady increase of industry participation, several companies have stepped to the forefront in reducing chemical releases to the environment. Companies such as Rhône-Poulenc and DuPont attribute their successes,

wholly or partly, to the TRI program. Since Rhône-Poulenc (the 6<sup>th</sup> largest chemical company worldwide) joined the program, their toxic emissions have decreased by 50% and they are now recycling 90% of the chemicals they use. DuPont's chemical releases have declined by over 50% and it has experienced a 70% decrease in the number of injuries, illnesses and incidents involving chemical releases.

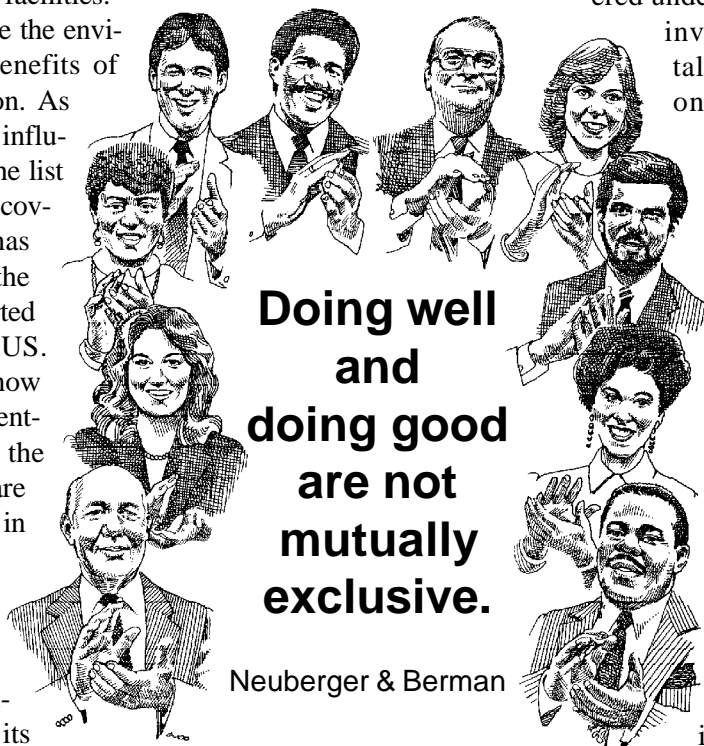
TRI has even influenced businesses not covered under the regulation. Lucrative investments in environmentally-friendly industries are on the rise. According to Neuberger & Berman (N&B), because of the growing interest in environmentally conscientious companies, N&B is now using TRI to screen socially-responsive portfolios.

## **State Government**

Examples of states that have recently instituted TRI-based initiatives include Tennessee and Louisiana, two states with a high population of industrial facilities. Tennessee is proud of its 2000 Initiative

on air pollution. This program emphasizes industry outreach and the participation of local facilities in pollution reduction schemes. Louisiana is equally pleased with its Environmental Leadership Program. This initiative encourages partnerships with the local chemical industry and stresses voluntary reductions of emissions beyond levels of compliance.

Administrator Browner recently stated that more than 1,500 community groups use TRI data in their dealings with local government and industry. Grassroots groups and non-profit organizations, well represented at the conference, were eager to voice their successes in the legislative and legal systems. Inspired by TRI's



**Doing well  
and  
doing good  
are not  
mutually  
exclusive.**

Neuberger & Berman

(continued from page 22)

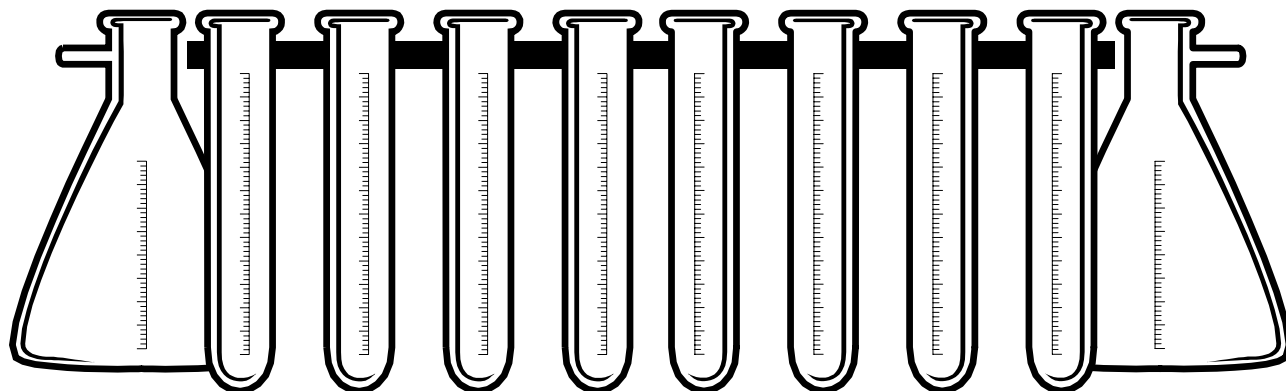
momentum, some groups successfully lobbied for state laws such as the Toxics Use Reduction Act (Massachusetts) and a Toxics Right-to-Know charter amendment (Oregon). Other organizations, such as Don't Waste Arizona, Inc., successfully sued facilities for failure to report under EPCRA — but with a constructive twist: instead of paying hefty fines to EPA, court judgments were issued for companies to apply some fines toward facility improvements to meet compliance.

TRI is successful because there is something in it for everyone. In complying with regulations, industry benefits the environment by reducing chemical releases.

In some cases, a company's stock investments increase and the bottom line improves as a result of more socially-responsive practices. As community groups learn about the hazards around them, they can coalesce to promote safer, healthier communities. Non-profit organizations serve to increase public awareness and efficacy by bridging communications with government. Finally, while serving the public at large, Federal, State and local governments become stewards of environmental protection by operating programs and initiatives that further awareness of potential chemical hazards.

### **EPA Welcomes Success Stories**

Please contact Marla Hendriksson (202-260-8301)  
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# Notice of Merger

The *Chemicals in the Environment: Public Access Information* and the *Chemicals in Progress Bulletin* will merge into a new publication beginning with a Winter 1998 issue. Published by EPA's Office of Pollution Prevention & Toxics (OPPT), this new publication is a hybrid of its parent publications. The issues will be theme-based and all articles will relate to each theme. There will also be a "What's New" portion of each issue featuring news items on the latest chemical program issues.

OPPT is encouraging all subscribers of *Chemicals in the Environment* and *Chemicals in Progress* to access an electronic copy of the new publication, in color, on the Internet (available in HTML and PDF formats) at: <http://www.epa.gov/opptintr/opptpub.htm>. In addition, the "What's New" webpage will have timely updates on chemical program issues. Subscribers who do not have Internet access are urged to return a copy of this notice to receive hard copy issues of the new publication. Only those who send back this notice will receive hard copies via regular mail.

**To receive a hard copy: please photocopy this page, fill out the proper information, fold the paper on the dotted lines, and mail it to the address below or fax it to Marla Hendriksson at (202) 401-2347.**

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